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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/667,029

**Applicant(s)**

ALFERNES ET AL.

**Examiner**

TANH Q. NGUYEN

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2007 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/18/03 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Individual Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 17, 2007 has been entered.

### ***Claim Objections***

2. Claims 1, 12, 23 are objected to because of the following informalities:

"determining an amount of memory bandwidth of a network processor used by a plurality of data types **used** to transmit data through a plurality of active ports" in lines 3-6 of claim 1 should be replaced with -- determining an amount of memory bandwidth of a network processor used by a plurality of data types used to transmit data through a plurality of active ports-- for clarity. Each of claims 12 and 23 recites a similar limitation, and is objected to on the same basis.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4, 15 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 4 recites "the total amount of memory bandwidth of the network processor currently used by the plurality of data types" in lines 5-7. Claim 15 recites a similar limitation in lines 4-6. There is insufficient antecedent basis for the limitation in the respective claims.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7, 11; 12-18, 22; 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Olnowich (US 6,098,123).

8. As per claim 1, Olnowich teaches a method of self-adjusting allocation of memory bandwidth in a network processor system [Abstract, lines 1-4; FIG. 5], comprising:

determining an amount of memory bandwidth of a network processor used by a plurality of data types used to transmit data through a plurality of active ports [port A and port B are used to transmit data to and from processor 4; port C and port D are used to transmit data to and from network 2 - hence four different data types through ports A, B, C, D (col. 1, lines 30-36; FIG. 5); in a first example, ports C and D are active with port C

using 50 MB/s and port D using 50 MB/s - hence 100 MB/s of memory bandwidth of the network processor being used by two data types to transmit data through two active ports (col. 3, lines 51-66); in a second example, ports A-D are active with port A-B using 25 MB/s, port C using 25 MB/s and port D using 50 MB/s - hence 100 MB/s of memory bandwidth of the network processor being used by four data types to transmit data through four active ports (col. 3, line 62-col. 4, line 2));

determining an amount of memory bandwidth of the network processor used by each of a plurality of data types [in the first example, data type of port A uses 0 MB/s, data type of port B uses 0 MB/s, data type of port C uses 50 MB/s, and data type of port D uses 50 MB/s (col. 3, lines 51-66); in the second example, data types of ports A-B use 25 MB/s, data type of port C uses 25 MB/s, and data type of port D uses 50 MB/s];

dynamically adjusting an amount of memory bandwidth allocated to at least one of the plurality of data types based on the determinations [in the first example, data types of ports A-B are dynamically adjusted to 25 MB/s and data type of port C is dynamically adjusted to 25 MB/s - when processor requires the use of adapter memory 18 (col. 3, lines 51-66; FIG. 5); in the second example, data types of ports A-B are dynamically adjusted to 75 MB/s when port D becomes inactive; in an alternative of the second example, data types of ports A-B are dynamically adjusted to 50 MB/s and data type of port C is dynamically adjusted to 50 MB/s when port D becomes inactive].

Alternatively, data types of ports A-B are interpreted as a nodal processor data type - hence the above system comprising three data types and four ports, instead of four data types and four ports.

9. As per claims 2-7, 11, Olnowich teaches the total amount of memory bandwidth of the network processor used by the plurality of data types being configurable [col. 3, lines 26-col. 4, line 4];

determining whether memory bandwidth may be allocated to at least one of the plurality of data types [col. 3, lines 61-66];

determining a difference between a maximum amount of memory bandwidth of the network processor that may be used by the plurality of data types (i.e. 100 MB/s) and the total amount of memory bandwidth of the network processor currently used by the plurality of data types [in the first example, when it is determined that there is no remaining bandwidth (i.e. when the difference between maximum amount of memory bandwidth and the total amount of memory bandwidth currently used by the plurality of data types is zero), data types of ports A-B are dynamically adjusted to 25 MB/s and data type of port C is dynamically adjusted to 25 MB/s; in the second example, when it is determined that there is no remaining bandwidth, data types of ports A-B are dynamically adjusted to 75 MB/s when port D becomes inactive (or in the alternative, data types of ports A-B are dynamically adjusted to 50 MB/s and data type of port C is dynamically adjusted to 50 MB/s when port D becomes inactive);

determining whether a port for transmitting data of at least one of the plurality of data types may be activated [ports A-B may be activated (col. 3, lines 61-66)];

determining a number of active ports of the network processor used to transmit data of each of the plurality of data types (in the first example, port C and port D are active; in the second example, ports A-B, port C and port D are active); and determining

an amount of memory bandwidth allocated to each active port for each of the plurality of data types (in the first example, port C is allocated 50 MB/s and port D is allocated 50 MB/s; in the second example, ports A-B are allocated 25 MB/s [note that if only port A of ports A-B is active, then port A is allocated 25 MB/s; alternatively if only port B of ports A-B is active, then port B is allocated 25 MB/s], port C is allocated 25 MB/s and port D is allocated 50 MB/s);

the amount of memory bandwidth allocated to each active port for a data type is the same (in the first example - port C is active and is allocated 59 MB/s, port D is active and is allocated 50 MB/s).

dynamically activating and deactivating a port for transmitting data of at least one of the plurality of data types (in the first example, ports A-B are dynamically activated; in the second example, port D is dynamically deactivated).

10. As per claim 12, Olnowich teaches an apparatus [3, FIG. 1] comprising:

a port activation logic [4, 28, 30 - FIG. 5], adapted to couple to a memory [18, FIG. 5] of a network processor [3, FIG. 1] and to interact with the memory so as to:

determine an amount of memory bandwidth of the network processor used by a plurality of data types used to transmit data through a plurality of active ports; determine an amount of memory bandwidth of the network processor used by each of the plurality of data types; and dynamically adjust an amount of memory bandwidth allocated to at least one of the plurality of data types based on the determinations (see the rejection of claim 1 above).

11. As per claims 13-18, 22, see the rejections of claim 12 and claims 2-7, 11 above.

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12. As per claim 23, Olnowich teaches a network processor system [FIG. 1]

comprising:

a memory [18, FIG. 5]; and

a network processor [3, FIG. 1] coupled to the memory, the network processor

comprising:

a memory controller [4, 28, 30 - FIG. 5];

a plurality of ports [ports A-D, FIG. 5]; and

a port activation logic, coupled to the memory controller, the plurality of ports and the memory, and adapted to interact with the memory so as to determine an amount of memory bandwidth of the network processor used by a plurality of data types used to transmit data through a plurality of active ports; determine an amount of memory bandwidth of the network processor used by each of the plurality of data types; and dynamically adjust an amount of memory bandwidth allocated to at least one of the plurality of data types based on the determinations (see the rejection of claim 12 above).

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 8-10, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable



over Olnowich.

Olnowich does not specifically teach the amount of memory bandwidth allocated to each active port for an ATM protocol data type being configurable. Olnowich does not specifically teach the plurality of data types including at least one of an ATM protocol data type and an Ethernet protocol data type. Olnowich does not specifically teach the Ethernet protocol data type includes at least one of a Gigabit Ethernet data type and a Fast Ethernet data type. Essentially, Olnowich teaches a plurality of nodes communicating over an interconnection network [col. 1, lines 9-14; FIG. 1], but does not specify the type of network.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for Olnowich to use an ATM protocol data type in order to properly communicate in an ATM interconnection network because it was known in the art to use an ATM protocol data type to properly communicate in an ATM interconnection network

It would also have been obvious to one of ordinary skill in the art at the time the invention was made to use an Ethernet protocol data type in order to properly communicate in an Ethernet interconnection network because it was known in the art to use an Ethernet protocol data type to properly communicate in an Ethernet interconnection network; and further to use a Fast Ethernet data type for high-speed applications in the Ethernet interconnection network and/or to use a Gigabit Ethernet data type for applications that requires even higher speed than the Fast Ethernet data type in the Ethernet interconnection network because it was known in the art to use such data types for such applications.

***Response to Arguments***

15. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TANH Q. NGUYEN whose telephone number is (571)272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on 571-272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tanh Q. Nguyen/

Primary Examiner, Art Unit 2182

TQN  
March 16, 2008